## CLAIM AMENDMENTS

Please replace the pending claims with the following:

1. (Currently amended) An electrochemical device comprising a cathode, an anode and an electrolyte arranged between the cathode and anode, wherein the ~~which~~ electrolyte comprises an ionic liquid comprising an anion and a cation, which cation has a pyrrolidinium ring structure,

wherein the active material of the cathode comprises as its major constituent by mass an intercalation material having an upper reversible-potential-limit of at most 4 V versus $Li/Li^+$ and comprising any of the following compounds: $Li_4Ti_5O_{12}$, $LiTi_2O_4$, $Li_{4-y}Mg_yTi_5O_{12}$ ($0 \leq y \leq 1$), $V_2O_5$, $Li_4Mn_5O_{12}$, or $Li_{4-y}Mg_yMn_5O_{12}$ ($0 \leq y \leq 1$).

2. (Currently amended) The electrochemical device of claim 1, wherein the electrochemical ~~element~~ device is a primary battery or a rechargeable battery or an electrochemical capacitor.

3. (Currently amended) The electrochemical device of claim 1, wherein the electrochemical ~~element~~ device is configured for use at a temperature between 50 and 200 °C ~~above 50 °C~~.

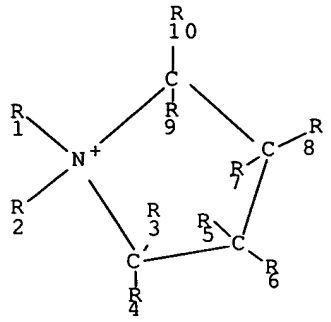
4. (Currently amended) The electrochemical device of claim 3, wherein the electrochemical ~~element~~ device is configured for use at a temperature between 60 and 200 °C.

5. (Previously presented) The electrochemical device of claim 1, wherein the pyrrolidinium ring structure has the formula: *N*-$R_1$-*N*-$R_2$-pyrrolidinium, wherein $R_1$ and $R_2$ are alkyl groups.

6. (Previously presented) The electrochemical device of claim 5, wherein the pyrrolidinium ring structure has the formula *N*-methyl-*N*-butyl-pyrrolidinium.

7. (Withdrawn) The electrochemical element claim 5, wherein the pyrrolidinium ring structure has the formula *N*-methyl-*N*-hexyl-pyrrolidinium.

8. (Currently amended) The electrochemical device of claim 1, wherein the pyrrolidinium structure is:



wherein $R_1$-$R_{10}$ are selected from the group consisting of ~~either~~: H, F, separate alkyl groups which may be branched, substituted and comprise heteroatoms, and ~~,~~ separate phenyl groups which may be substituted and comprise heteroatoms.

9. (Currently amended) The electrochemical device of claim 1, wherein the anion of the ionic liquid comprises any of the following compounds:

$ClO_4^-$, $PF_6^-$, $BF_4^-$, $AsF_6^-$, a halogen ion, $N(CF_3)_2^-$, $N(CF_3SO_2)_2^-$, $CF_3SO_3^-$, $N(CH_3SO_2)_2^-$, $N(C_2F_5SO_2)_2^-$, $B(C_2O_4)_2^-$, or $C(CF_3SO_2)_3^-$.

10. (Previously presented) The electrochemical device of claim 1, wherein the electrolyte further comprises a salt.

11. (Previously presented) The electrochemical device of claim 10, wherein the salt comprises an alkali salt.

12. (Currently amended) The electrochemical element of claim 10, wherein the alkali salt comprises $MgCF_3SO_2$ or $Mg(ClO_4)_2$.

13. (Cancelled)

14. (Cancelled)

15. (Currently amended) An electrochemical device comprising a cathode, an anode and an electrolyte arranged between the cathode and anode, wherein the ~~which~~ electrolyte comprises an ionic liquid comprising an anion and a cation, wherein the ~~which~~ cation has a pyrrolidinium ring structure , wherein the cathode comprises $LiCrTiO_4$ as the major constituent by mass of the active material.

16. (Currently amended) An electrochemical device comprising a cathode, an anode and an electrolyte arranged between the cathode and anode, wherein the ~~which~~ electrolyte comprises an ionic liquid comprising an anion and a cation, wherein the ~~which~~ cation has a pyrrolidinium ring structure, wherein the cathode comprises $TiS_2$ as the major constituent by mass of the active material.

17. (Currently amended) An electrochemical device comprising a cathode, an anode and an electrolyte arranged between the cathode and anode, wherein the which electrolyte comprises an ionic liquid comprising an anion and a cation, wherein the ~~which~~ cation has a pyrrolidinium ring structure, wherein the cathode comprises $Li_{1-y}M_yFePO_4$, where M=Mg, Nb, Zr, Ti, or Al and ($0 \leq y \leq 0.02$), as the major constituent by mass of the active material.

18. (Cancelled)

19. (Withdrawn) The electrochemical element of claim 1, wherein the anode comprises as the major constituent by mass of the active material any of the following compounds: $Li_4Ti_5O_{12}$, $LiCrTiO_4$, $LiTi_2O_4$, or $Li_{4-y}Mg_yTi_5O_{12}$ ($0 \leq y \leq 1$).

20. (Previously presented) The electrochemical element of claim 1, wherein the anode comprises as the major constituent by mass of the active material $Li_{(4-y)+b}Mg_yTi_5O_{12}$ ($0 \leq b \leq 3$) and ($0 \leq y \leq 1$).

21. (Cancelled)

22. (Previously presented) The electrochemical element of claim 1, wherein the cathode or anode comprises polyvinylidenefluoride (PVDF) as a binder material.

23. (Previously presented) The electrochemical element of claim 1, wherein the cathode or anode comprises polytetrafluoroethylene (PTFE) as a binder material.

24. (Canceled)

25. (Canceled)

26. (Canceled)